

5.0 Conclusion

The Iowa Department of Natural Resources Animal Feeding Operations Technical Workgroup was convened on February 5th and concluded December, 2004. This workgroup allowed the Iowa Department of Natural Resources an opportunity to gain valuable insight and expertise from individuals with technical knowledge as part of a continuing effort to develop a working understanding of the complex technical issues involved in air quality issues associated with animal feeding operations (AFOs). This report summarizes the processes, assumptions, data, and recommendations of each of the three workgroups in the areas of best management practices (bmp's), air emissions characterization, and dispersion modeling.

The findings of the bmp workgroup indicate that current technologies are available to producers to reduce air emissions from livestock operations. These technologies are summarized in Chapter 2.0 of this report, and can also be found at the following web address: <http://extension.agron.iastate.edu/immag/pubsodors.html>. Adoption of these technologies by producers will benefit the air quality on the farms themselves, at nearby residences, and the overall environment by reducing air emissions.

The Air Emissions Characterization workgroup summarized available emission factors for ammonia, hydrogen sulfide, particulate matter, and odors. The emission factors are listed in Tables 3-1 through 3-4 to provide the public with one centralized location to find emission factors that may be used to estimate emissions from AFOs.

The Dispersion Modeling workgroup recommends application of the American Meteorological Society / Environmental Protection Agency Regulatory Model (AERMOD) for estimation of odor, hydrogen sulfide and ammonia impacts from AFOs. Additionally, the workgroup recommends continual review of new or enhanced dispersion modeling systems, and further evaluation of AERMOD through investigation of proper model configuration and setting selection.